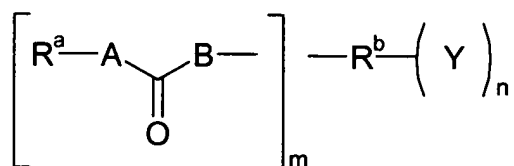


Claims:

1. A paint or coating composition comprising
- (i) menthol and / or isopulegol,
 - (ii) a compound of formula (II)



(II)

wherein

R^a denotes C_4 - C_{20} -alkyl, C_5 - C_{20} -cycloalkyl or -heterocycloalkyl or C_5 - C_{20} -alkoxy, C_6 - C_{12} -aryl, C_5 - C_{10} -heteroaryl or C_7 - C_{11} -aralkyl;

R^b denotes an $m + w + n$ -valent aliphatic C_1 - C_8 radical, a cycloaliphatic or heterocycloaliphatic C_3 - C_{15} radical, an araliphatic C_7 - C_{20} radical, an alkoxy- or acyloxy-containing aliphatic C_3 - C_{15} radical;

A and B independently of one another denote -O-, -S- or -NH-;

Y denotes hydroxy, C_1 - C_{10} -alkoxy, C_2 - C_6 -acyloxy, amino, mercapto or -O-Z-O-;

Z denotes C_1 - C_6 -alkylene;

w denotes the valency of the radical Y and

m and n independently of one another denote integers from 1 to 8, with the proviso that the sum of $m + n$ is not more than 12, and

(iii) a film forming agent.

2. A composition according to claim 1, wherein said compound of formula (II) is present in an amount from about 0.01 to about 50 percent by weight of said composition.

3. A composition according to claim 1 or 2, wherein the compound of formula (II) are menthol glycol carbonate (IIa), menthol propyleneglycol carbonate (IIb) and menthol glycerin carbonate (IIc).

4. A composition according to any preceding claim, comprising menthol, isopulegol and menthol propyleneglycol carbonate.

5. A paint comprising a composition according to any preceding claim.

6. A paint according to claim 5, which is formulated as a marine paint.

7. Use of a composition according to any of claims 1-4 or a paint according to claim 5 or 6 for protecting a surface exposed to an aqueous environment from fouling organisms present in said aqueous environment.

8. A method for protecting a surface exposed to an aqueous environment from fouling organisms present in said aqueous environment, which comprises applying to said surface a coating including menthol and/or isopulegol and at least one compound of formula (II) as defined in claim 1.

9. A method according to claim 8, wherein said coating composition is applied to said surface by brushing, spraying or dipping.

10. An article having an underwater surface, at least a portion of said surface being coated with a composition according to any of claims 1-4 or a paint according to claim 5 or 6.

11. An article according to claim 10 in the form of a ship hull or fishing net.

12. Use of a compound of formula (II) as defined in claim 1 as antifouling agent.

13. Use of a compound of formula (II) as defined in claim 1 for protecting a surface exposed to an aqueous environment from fouling organisms present in said aqueous environment.

14. Use of a compound of formula (II) as defined in claim 1 for producing a marine paint composition for protecting a surface exposed to an aqueous environment from fouling organisms present in said aqueous environment.

15. Use of a compound of formula (II) as defined in claim 1 for synergistically enhancing the antifouling effect of (a) menthol, (b) isopulegol or (c) a mixture of menthol and isopulegol.

16. Use according to any of claims 12-15, wherein the compound of formula (II) as defined in claim 1 is selected from the group

consisting of menthol glycol carbonate (IIa), menthol propyleneglycol carbonate (IIb), menthol glycerin carbonate (IIc), and mixtures thereof.

17. Marine paint composition comprising

- a) one or more compounds of formula (II) as defined in claim 1,
- b) a film forming agent,
- c) optionally, one or more typical additives, and
- d) optionally, menthol and / or isopulegol,

wherein the total amount of components a) and, if present, d) is effective for inhibiting or preventing fouling organisms, when the marine paint is applied to a substrate and the substrate is thereafter exposed to sea water.

18. A paint or coating composition comprising

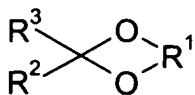
- (i) menthol and / or isopulegol

and

- (ii) a compound selected from the group consisting of

- a) menthyl esters of a natural occurring hydroxycarboxylic acid having 2 to 6 carbon atoms, which are in turn optionally esterified by C₁-C₄ carboxylic acids on the hydroxy group;

- b) compounds of formula (I):



(I)

wherein

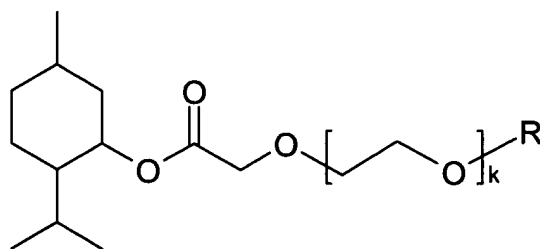
R^1 represents a C_2 - C_6 -alkylene radical having at least 1, but not more than 3, hydroxy group(s) and

either R^2 and R^3 independently of one another represent C_1 - C_{10} -alkyl which is optionally substituted by 1 to 3 radicals from the group comprising hydroxy, amino and halogen, or C_5 - C_7 -cycloalkyl, or C_6 - C_{12} -aryl, with the proviso that the total amount of the carbon atoms of R^2 and R^3 is not less than 3,

or

R^2 and R^3 together represent an alkylene radical which, together with the carbon atom which carries the radicals R^2 and R^3 , forms a 5-7-membered ring, it being possible for this alkylene radical, for its part, to be substituted by C_1 - C_6 -alkyl groups;

d) compounds of formula (III):



(III)

wherein

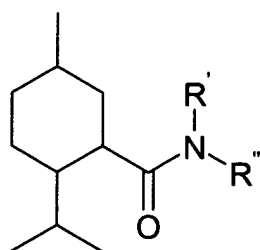
$R = H$ and k is a whole number from 1 to 4, or $R = CH_3$ and k is a

Attorney Docket: 3968.161

Patent Application

whole number from 0 to 4;

e) compounds of formula (IV):



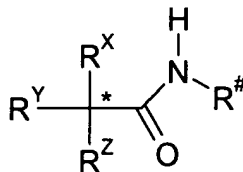
(IV)

wherein

R' is H or an alkyl, cycloalkyl, alkenyl, cycloalkenyl, hydroxyalkyl, alkynyl, acyloxyalkyl, alkoxyalkyl, aminoalkyl, acylaminoalkyl, carboxyalkyl radical or an alkylcarboxyalkyl radical of the formula $-C_pH_{2p}COOR'''$, wherein $-C_pH_{2p}$ is a straight or branched chain alkylene group in which p is an integer from 1 to 6 and R''' is C_1-C_8 -alkyl, each of said radicals containing up to 25 carbon atoms, and

R'' is hydroxy or an alkyl, cycloalkyl, alkenyl, cycloalkenyl, hydroxyalkyl, alkynyl, acyloxyalkyl, alkoxyalkyl, aminoalkyl, acylaminoalkyl, carboxyalkyl radical or an alkylcarboxyalkyl radical of the formula $-C_pH_{2p}COOR'''$, wherein $-C_pH_{2p}$ is a straight or branched chain alkylene group in which p is an integer from 1 to 6 and R''' is C_1-C_8 -alkyl, each of said radicals containing up to 25 carbon atoms; with the proviso that when R' is hydrogen R'' may also be an aryl radical of up to 10 carbon atoms selected from benzyl and substituted phenyl wherein the substituents are selected from C_1-C_4 alkyl, hydroxy and C_1-C_4 -alkoxy, nitro and halogen;

f) compounds of formula (V):



(V)

wherein

R[#] is C₁-C₅-alkyl, C₁-C₈-hydroxyalkyl or alkylcarboxyalkyl with up to 6 carbon atoms,

R^X is hydrogen or C₁-C₅-alkyl; and

R^Y and R^Z independently are C₁-C₅-alkyl,

with the provisos that

R^X, R^Y and R^Z together provide a total of at least 5 carbon atoms, preferably 5-10 carbon atoms, and

when R^X is hydrogen, R^Y is C₂-C₅-alkyl and R^Z is C₃-C₅-alkyl and at least one of R^Y and R^Z is branched, preferably in alpha or beta position relative to the carbon atom marked (*) in the formula (V);

and

(iii) a film forming agent.

19. A composition according to claim 18, wherein said compounds are present in an amount from about 0.01 to about 50 percent by weight of said composition.

20. A composition according to claim 18, wherein the compound selected from (ii) a), above, is l-menthyllactate.

21. A composition according to claim 18, wherein the compound selected from (ii) b), above, is menthone glycerin acetal.

22. A composition according to claim 18, wherein the compound selected from (ii) e), above, is N-ethyl-p-menthane-3-carboxamide.

23. A composition according to claim 18, wherein the compound selected from (ii) f), above, is 2-isopropyl-N-2,3-trimethylbutanamide.

24. A paint comprising the composition of any of claims 18-23.

25. A paint according to claim 24, which is formulated as a marine paint.

26. Use of a composition according to any of claims 18-23 or a paint according to claim 24 or 25 for protecting a surface exposed to an aqueous environment from fouling organisms present in said aqueous environment.

27. A method for protecting a surface exposed to an aqueous environment from fouling organisms present in said aqueous environment, which comprises applying to said surface a coating including menthol and/or isopulegol and at least one compound listed under ii) a) to f) in claim 18.

28. A method according to claim 27, wherein said coating composition is applied to said surface by brushing, spraying or dipping.

29. An article having an underwater surface, at least a portion of said surface being coated with a composition according to any of claims 18-23.

30. An article according to claim 29 in the form of a ship hull or

fishing net.

31. Use of a compound selected from the group consisting of any of the compounds listed under ii) a) to f) in claim 18, and mixtures thereof, as antifouling agent.

32. Use of a compound selected from the group consisting of any of the compounds listed under ii) a) to f) in claim 18, and mixtures thereof, for protecting a surface exposed to an aqueous environment from fouling organisms present in said aqueous environment.

33. Use of a compound selected from the group consisting of any of the compounds listed under ii) a) to f) in claim 18, and mixtures thereof, for producing a marine paint composition for protecting a surface exposed to an aqueous environment from fouling organisms present in said aqueous environment.

34. Use of a compound selected from the group consisting of any of the compounds listed under ii) a) to f) in claim 18, and mixtures thereof, for synergistically enhancing the antifouling effect of (a) menthol, (b) isopulegol or (c) a mixture of menthol and isopulegol.

35. Use according to any of claims 31-34, wherein the compound is selected from the group consisting of 1-menthyllactate, menthone glycerin acetal, N-ethyl-p-menthane-3-carboxamide, 2-isopropyl-N-2,3-trimethylbutanamide, menthyl methoxyacetate, menthyl 3,6-dioxaheptanoate, and mixtures thereof.

36. Marine paint composition comprising

(a) one or more compounds selected from the group consisting of the compounds listed under ii) a) to f) in claim 18,

(b) a film forming agent,

(c) optionally, one or more typical additives, and

(d) optionally, menthol and / or isopulegol,

wherein the total amount of components a) and, if present, d) is effective for inhibiting or preventing fouling organisms, when the marine paint is applied to a substrate and the substrate is thereafter exposed to sea water.